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ELECTRIC DISCHARGE VESSEL

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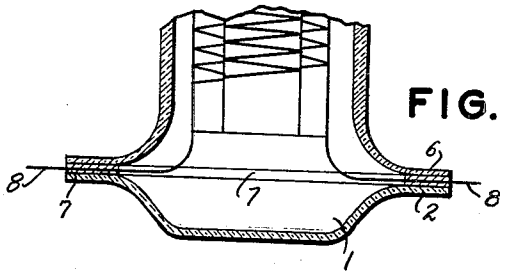

FIG. 2.

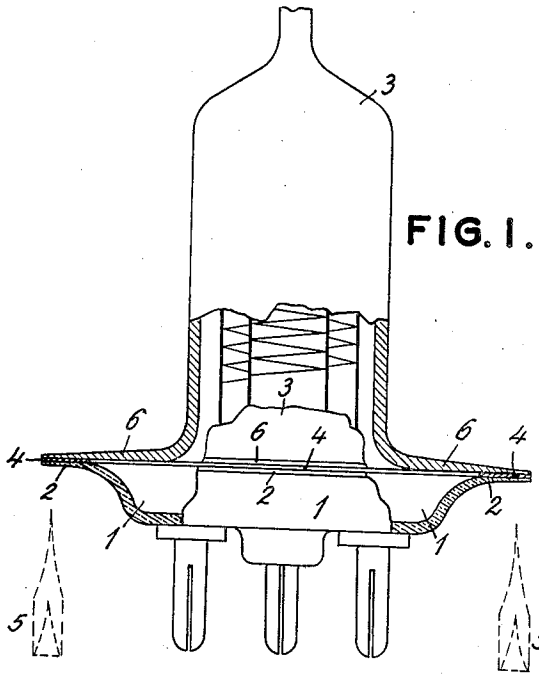

FIG. 1.

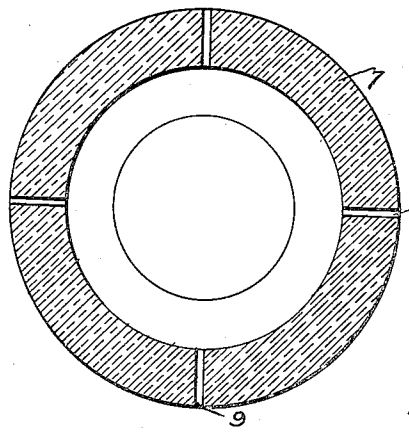

FIG. 3.

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ELECTRIC DISCHARGE VESSEL

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Application May 13, 1938, Serial No. 207,755
In Germany May 14, 1937

4 Claims. (Cl. 250—27.5)

The invention relates to electric discharge vessels of the kind in which the bulb and a cover, made of a ceramic or other refractory material, are united together by a melting operation.

The invention has for its object to prevent as far as possible the melting heat from influencing the bulb and the parts contained therein. To such end both the bulb and cover are each formed with a flange and these flanges are melted together at their edges, as will be understood from the following description, reference being had to the accompanying drawing in which Fig. 1 is a side elevation view partly in section of a device in accordance with my invention, Fig. 2 is a side elevation view partly in section of a modified form of device in accordance with my invention and Fig. 3 is a sectional view of the device of Fig. 2 taken through the center of the ring 7.

In the drawing, 1 denotes a ceramic or similar cover for a metal bulb 3. Cover 1 has a flange 2. Bulb 3 has a flange 6. These flanges are secured together by means of a flat ring 4 made of a soft glass. In order to perform this, flange 2 is heated from below by gas jets 5 indicated in dotted lines.

In the case represented the flanges 2, 4 are shown as tapering towards their edges, thus being sufficiently thin for the glass ring 4 to be readily softened.

Instead of arranging a glass ring 4 between the flanges, a layer of glass may be melted either onto flange 6 or on flange 2. Further, a metal melt may serve this purpose or a material which is elastic after solidification may be used for securing the flanges together. Also, cover 1 if possessed of a certain porousness may be glazed inside or may be glazed on both sides.

Furthermore, in lieu of gas jets a glowing toroidal coil or a glowing ring may be employed for flange 2 to rest upon in order to melt the binding agent disposed between the flanges, such for instance as glass ring 4.

The leads joined to the electrode system contained in bulb 3 may be supported by cover 1 and may outside be arranged to extend in the direction of radii. The electrode system, however, may also be arranged on a ring consisting of ceramic or similar material. Figs. 2 and 3 show sectional views of an embodiment of the arrangement referred to above. The ring supporting the electrode system is designated by 7; 8 represents the leads for the electrode system arranged radially in the supporting ring. Fig. 3 which is a sectional view through the supporting ring in the plane of the leads shows the borings or slots 9 into which the leads are sealed.

Bulb 3 in lieu of being made of a metal may consist of a ceramic material or of a suitable glass. In the case of ceramic material this should be of a certain density and of a coefficient of expansion not exceeding the value $55 \cdot 10^{-7}$.

It will be seen that by heating merely the edges of the flanges 2, 6 the main part of the vessel 1, 3 will not be affected by detrimental temperatures. In addition, this part of the vessel may be protected from the heating means by a suitable screening. This may consist of an insulating cylinder or a number thereof.

What is claimed is:

1. An electric discharge vessel comprising a bulb containing an electrode system, said bulb having a flange extending outwardly a substantial distance, a refractory cover therefor having a flange secured to the first flange by a binding agent adapted when heated to unite the two flanges, said flanges being relatively wide whereby the flanges may be heated to melt said binding agent without deleteriously influencing said bulb or said electrode system.

2. An electric discharge vessel according to claim 1 having said electrode system mounted on said cover.

3. An electric discharge vessel according to claim 1 having a ceramic ring for supporting said electrode system.

4. An electric discharge vessel according to claim 1 having a ceramic ring for supporting said electrode system the leads of said system passing through slots provided in said cover.

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